

What is claimed is:

1. A method of identifying a test strip having a set of test pads, said method comprising:
  - A. impinging on said set of test pads at least one test signal having a wavelength;
  - B. detecting a set of reflected signals from said set of test pads;
  - C. generating an image comprised of a set of reflectance values derived from said set of reflected signals;
  - D. determining a test pad type from the image for at least one test pad from the set of test pads by comparing a reflectance value associated with the test pad with a set of reference reflectance values, wherein each of said reference reflectance values corresponds to said wavelength and is associated with a different reference test pad type; and
  - E. identifying said test strip as a function of a set of determined test pad types.
2. The method of claim 1, wherein said at least one test signal is a test signal from an LED light source.
3. The method of claim 1, wherein said at least one test signal is a plurality of test signals generated from a set of LEDs, wherein each LED in said set of LEDs is configured to transmit light at a different wavelength.
4. The method of claim 1, wherein step C includes determining a test pad reflectance value for each test pad in said set of test pads.
5. The method of claim 4, wherein step C includes counting said test pad reflectance values to determine a test pad count and determining a test strip format as a function of said test pad count.

6. The method of claim 4, wherein step C includes determining a test pad order from said test pad reflectance values.
7. The method of claim 6, wherein step D includes selecting said set of reference reflectance values as a function of a test pad position in said test pad order.
8. The method of claim 1, wherein step B includes creating a pixel-based image of said test strip from said reflected signals.
9. The method of claim 8, wherein said pixel-based image comprises a plurality of pixel sets and each pixel set corresponds to a different test pad.
10. The method of claim 1, further including:
  - F. determining a test result for the at least one test pad as a function of the reflectance value.
11. A method of identifying a test product having a test region, said method comprising:
  - A. impinging on said test region at least one test signal having a wavelength;
  - B. detecting a set of reflected signals from said test region with a matrix of pixel-based detectors and creating a pixel-based image of said test region, wherein said pixel-based image comprises a plurality of pixel sets and each pixel set corresponds to a different test area from said test region;
  - C. determining, from said pixel-based image, a reflectance value for at least one test area from said test region;
  - D. determining a test product type by comparing a reflectance value associated with the at least one test area with a set of reference reflectance values, wherein each of said reference reflectance values corresponds to said wavelength and is associated with a different reference test area type; and
  - E. identifying said test product as a function of a set of determined test area types.

12. The method of claim 11, wherein the test product is a test strip and the test areas are test pads on the test strip.

13. The method of claim 11, wherein the test product is a reagent cassette and the test areas include one or more of a test line, control line and reference in the test region.

14. A system for identifying a test strip including a set of test pads, said system comprising:

- A. media having data indicative of a plurality of reference test strips and of a set of spectral signatures, wherein each of said spectral signatures is associated with a reference test pad type and includes a reference reflectance value at each of a plurality of wavelengths;
- B. a set of test signal generators configured to impinge on said set of test pads at least one test signal having a known wavelength;
- C. a matrix of pixel-based detectors, configured to detect reflected signals from said set of test pads and to create a pixel-based image of said test strip, wherein said pixel-based image comprises a plurality of pixel sets and each pixel set corresponds to a different test pad on said test strip;
- D. a translator configured to determine a reflectance value for at least one test pad from said set of test pads from the pixel based image;
- E. a pad typing module configured to compare said reflectance value with a set of reference reflectance values from said set of spectral signatures for said wavelength to determine a test pad type; and
- F. an identification module, configured to identify said test strip as a function of a set of test pad types determined by said pad typing module.

15. A system for identifying a test strip including a set of test pads, said system comprising:

- A. media having data indicative of a plurality of reference test strips and of a plurality of sets of reference reflectance values, wherein each set of reference reflectance values from said plurality of sets of reference

reflectance values is associated with a reference test pad type and a reference wavelengths;

- B. a set of test signal generators configured to impinge on said set of test pads at least one test signal having a known test wavelength;
- C. one or more detectors configured to generate an image of the test strip from the reflected signals;
- D. a translator configured to determine a reflectance value from said image for at least one test pad from said set of test pads;
- E. a pad typing module configured to compare said reflectance value with said sets of reference reflectance values for said test signal wavelength to determine a test pad type; and
- F. an identification module, configured to identify said test strip as a function of a set of test pad types determined by said pad typing module.

16. The system of claim 15, wherein said at least one test signal is a test signal from an LED light source.

17. The system of claim 16, wherein said at least one test signal is a plurality of test signals generated from a set of LEDs, wherein each LED in said set of LEDs is configured to transmit light at different a wavelength.

18. The system of claim 15, wherein said translator is configured to determine a test pad reflectance value for each of said test pads.

19. The system of claim 18, wherein said pad typing module is configured to determine a test pad count as a function of said test pad reflectance values and said pad typing module is further configured to determine a test strip format as a function of said test pad count.

20. The system of claim 15, wherein said translator is configured to determine a test pad reflectance value for each of said test pads and said pad typing module is further configured to determine a test pad order as a function of said test pad reflectance values.

21. The system of claim 20, wherein said pad typing module is further configured to apply a selected set of reference reflectance values as a function of a test pad position in said test pad order.
22. The system of claim 15, wherein said detectors are configured to create a pixel-based image of said test strip from said reflected signals.
23. The system of claim 22, wherein said pixel-based image comprises a plurality of pixel sets and each pixel set corresponds to a different test pad.
24. The system of claim 15, further comprising:
- F. a test conduct module, configured to determine a test result for the at least one test pad as a function of the reflectance value.
25. A reflectometer for identifying a test strip including a set of test pads, said reflectometer comprising:
- A. media having data indicative of a plurality of reference test strips and of a set of spectral signatures, wherein each of said spectral signatures is associated with a reference pad type and includes a reference reflectance value at each of a plurality of wavelengths;
  - B. a set of light emitting diodes (LEDs) configured to impinge on said set of test pads at least one test signal having a known wavelength;
  - C. one or more charge coupled device (CCD) detectors, configured to detect reflected signals from said set of test pads and to create a pixel-based image of said test strip, wherein said pixel-based image comprises a plurality of pixel sets and each pixel set corresponds to a different test pad on said test strip;
  - D. a translator configured to determine a reflectance value for at least one test pad from said set of test pads from the pixel-based image;
  - E. a pad typing module coupled to said one or more CCD detectors and configured to compare said reflectance value with a set of reference

- reflectance values for said wavelength to determine a test pad type; and
- F. an identification module, configured to identify said test strip as a function of a set of pad types determined by said pad typing module.
26. The system of claim 25, further comprising:
- F. a test conduct module, configured to determine a test result for said at least one test pad as a function of the reflectance value.
27. The system of claim 25, wherein said translator is configured to determine a reflectance value for each of said test pads.
28. The system of claim 27, wherein said pad typing module is configured to determine a test pad count as a function of said reflectance values and is further configured to determine a test strip format as a function of said test pad count.
29. The system of claim 25, wherein said translator is configured to determine a reflectance value for each of said test pads and said pad typing module is further configured to determine a test pad order as a function of said reflectance values.
30. A system for identifying a test product including a test region comprised of one or more test areas, said system comprising:
- A. media having data indicative of a plurality of reference test products, including reference reflectance values and reference wavelengths for each test area, wherein for each reference wavelength there is a set of reference reflectance values;
- B. a set of test signal generators configured to impinge on said test region at least one test signal having a test wavelength;
- C. one or more detectors configured to generate an image of the test region from the reflected signals;
- D. a translator configured to determine a reflectance value from said image for at least one test area;
- E. a typing module configured to compare said reflectance value and the test

wavelength with the reference reflectance values having a reference wavelength substantially equal to the test wavelength to determine a test area type; and

- F. an identification module, configured to identify said test product as a function of a set of test area types determined by said typing module.

31. The method of claim 30, wherein the test product is a test strip and the test areas are test pads on the test strip.

32. The method of claim 30, wherein the test product is a reagent cassette and the test areas include one or more of a test line, control line and reference in the test region.

33. A computer program configured for storage in a memory and for execution by at least one computer processor to identify a test product having a set of test regions, said computer program comprising:

- A. a test signal control module configured for causing a set of light sources to impinge on a set of test regions at least one test signal having a wavelength;
- B. a detector module configured for causing a detector to detect a set of reflected signals from said set of test regions;
- C. an image generating module configured for generating an image comprising a set of reflectance values derived from said set of reflected signals;
- D. a typing module configured for determining a test region type from the image for at least one test region from the set of test regions by comparing a reflectance value associated with the test region with a set of reference reflectance values, wherein each of said reference reflectance values corresponds to said wavelength and is associated with a different reference test region type; and
- E. a test product identification module configured for identifying said test product as a function of a set of determined test region types.

34. A computer program as in claim 33, wherein the test product is a test strip and the test regions are test pads.